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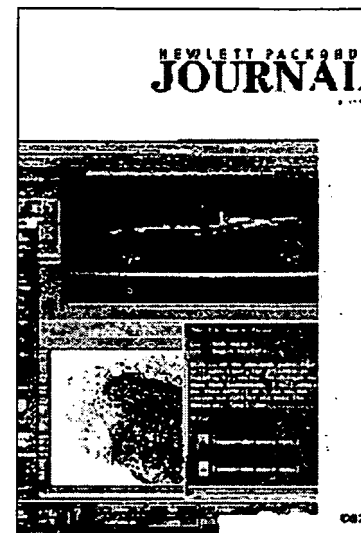
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The 1990s may be remembered as the decade when multimedia capability became commonplace in computer technology, communications, and entertainment. The exact meaning of multimedia depends on who's using the word. On HP engineering workstations (HP 9000 Series 700 and 800 computers), one meaning of multimedia is HP MPower, a collection of multimedia hardware and software tools and applications that allow users to create, manipulate, and share textual information and nontextual information such as audio, image, graphics, and video data over a network.

As described in the article on [page 10](#), on an HP MPower-equipped workstation the following services are available to the user: faxing, online documentation, scanning, image viewing, audio recording and playback, video in a window, window capture, whiteboard collaboration, real-time application sharing, and color graphics and PostScriptE printing. The development of HP MPower has been an evolutionary process.

new capabilities being developed as user needs changed and new technologies became available, and the product continues to evolve. The article on [page 6](#) tells the story of the evolution and goes on to describe two very recently released HP MPower capabilities: video, or full-motion video with synchronized audio, and telephone functionality with the MPower telephony component, HP TeleShare. These last two media types were added to MPower too late for articles on them to be prepared in time for this issue. We hope to have articles on their design in a future issue.



HP MPower, its various components, and its client/server architecture are introduced in the article on [page 10](#). HP MPower's graphical user interface is the HP Visual User Environment (HP VUE). It's the subject of the article on [page 20](#). The application sharing component of MPower is HP SharedX ([page 23](#)), a communication tool that extends the industry-standard X Window System so that two or more users at different workstations can share and interact with the same X-protocol-based applications almost as if they were at the same workstation. Existing X applications don't have to be changed to be shared with HP SharedX. Implementing this new application sharing technology in a heterogeneous computing environment, as designers discovered, poses many difficult design challenges, some of which don't have perfect solutions. A component of HP SharedX called Whiteboard ([page 28](#)) allows users to share a snapshot of a portion of a display and to annotate that snapshot.

Image files contain computer graphics and digital records of physical objects such as photographs, pages from books, and faxes. The HP Image Library (see [page 37](#)) contains image manipulation tools, compression and decompression functions, picture quality adjustment functions, and support for industry standards. Its functionality is used by various HP MPower components. For environments in which users have a multitude of printers to choose from, HP SharedPrint ([page 44](#)) provides a simple graphical interface that enables users to select a target printer and a set of options without many of the typical problems. The HP MPower fax utility ([page 53](#)) provides automatic dialing, transmission, and delivery of facsimile documents from a workstation.

HP MPower provides the hardware and software for recording and playing audio files.

network, incorporating audio in email, adding audio annotations to system files, and and playback using external devices such as tape recorders, CD players, and VCRs. MPower's audio functionality, application development tools, and hardware and software architecture are described in the article on [page 62](#). Video technology in HP MPower provided by a hardware/software component called HP VideoLive ([page 68](#)). It provides motion video in a movable, scalable window and works with existing HP graphics software without degrading system or graphics performance.

HP MPower also provides a multimedia email, or electronic mail, facility (see [page 7](#)). Well-established processes of creating, sending, receiving, printing, and replying to messages are maintained and applied to messages containing multimedia objects such as image and audio files.

Nearly 2000 online help topics are shipped with HP MPower. The HP online help system by HP MPower and other HP applications is described in the article on [page 79](#). One of the designers of the HP help system advises application developers on the issues they may encounter in providing online help for their applications.

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